thereby periodically heating said layer structure;

receiving infrared radiation emitted by said layer structure that is correspondingly modulated in intensity; and

evaluating said received infrared radiation as a function of a drive frequency on the basis of amplitude or phase by simultaneously interpreting corresponding drive frequencies.

2. (Amended) The method according to claim 1, wherein said heat source is a laser, a laser diode, or a light-emitting diode.

3. (Amended) The method according to claim 1, further comprising the step of:

adapting discrete frequency parts of said drive frequencies to a measurement function.

4. (Amended) The method according to claim 1, further comprising the step of:

detecting predetermined frequencies with a lock-in evaluation.

5. (Amended) The method according to claim 1, further comprising the step of:

evaluating individual frequencies using a Fast Fourier Transform.

6. (Amended) The method according to claim 4:

further comprising the step of providing an additional evaluation based on a regression analysis or a neural network.